Ophthalmia from Exposure to Snow.—GONIN (*Annal. d'oculist.*, September, 1908, 161) observes that references to disturbances of vision from exposure to the bright light reflected from snow occurs as early as in Xenophon's *Anabasis*, who states that he was compelled to abandon some of his soldiers on the route whose eyes had been "overwhelmed" by the snow. Modern writers have shown a disposition to question its occurrence. Such skepticism is doubtless due to the improper designation "snow-blindness" which the affection has popularly received. As a matter of fact the lesion most commonly observed is really a mild form of conjunctivitis, due in all probability to the ultraviolet rays, as is the case also in inflammation from exposure to electric lights. The retina is protected by the well-known property of the crystalline lens to absorb those rays and thus prevent their injurious effect upon the deeper structures. Hemeralopia, nyctalopia, and erythropsia have all been occasionally observed, but the mechanism of their production is obscure.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

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The Interdependence of the Glands with Internal Secretions.—In a long and elaborated series of experiments, EPPINGER, FALTA, and REUDIGER (*Ztschr f. klin. Med.*, 1908, lxvi), show that the physiological actions of the thyroid gland, the adrenals, and the pancreas are intimately connected. The extirpation of one of these glands acts upon the organism in two ways, directly through the loss of internal secretions, and indirectly by a disturbance in the function of the glands. The simple direct effect of extirpation of the thyroid gland upon the general metabolic process, showed itself, in starving dogs, particularly by a diminished excretion of nitrogen. The simple direct effect of an oversecretion of the adrenals, imitated by injections of adrenalin in starving dogs, was seen in an increased excretion of nitrogen and in the appearance of glycosuria. It was found now that extirpation of the thyroid had an indirect influence upon adrenalin glycosuria, for adrenalin glycosuria could not be produced in thyroidectomized dogs. By feeding these dogs thyroid extract, however, they could again be made susceptible to adrenalin glycosuria. No less remarkable was the effect of injections of adrenalin in dogs whose pancreas had been removed. Following injections of adrenalin in such dogs, the excretion of sugar and output of nitrogen was much increased above that observed in dogs whose pancreas had been removed and in whom adrenalin had not been injected, and the dextrose-nitrogen co-efficient was almost doubled. The removal of the thyroid secretion from the body by extirpation of the gland had, on the other hand, an exactly opposite effect on dogs whose pancreas had been removed. Preliminary removal of the thyroid decreased the excretion of the nitrogen and sugar when the pancreas was removed. If the two glands were removed simultaneously the decrease in nitrogen and sugar output was not observed until a day or two after the operation.

The experiments show that, under normal circumstances, the thyroid exerts an inhibitory action upon the internal secretion of the pancreas. When the thyroid is removed, the inhibitory influence upon the function of the pancreas is done away with and there is a "hyperpancreatism," while excessive secretion of the thyroid gives rise to a partial insufficiency of the pancreas and to an increased action of the adrenal. The adrenals also possess a marked inhibitory action, even greater than the thyroid, upon the pancreas, and besides seem to increase the action of the thyroid. The secretion of the pancreas inhibits both the action of the adrenals and thyroid. Further experiments seemed to show that the sympathetic nervous system and vagus nerves were at least in part responsible for the conduction of these influences from one gland to the other. It could be shown that the glycosuria produced by puncture of the floor of the fourth ventricle, was analogous to adrenalin glycosuria, inasmuch as removal of the thyroid gland prevented the appearance of glycosuria following injury to this particular portion of the nervous system. The adrenal glands are known to bear a close relationship to the sympathetic nervous system, and it seems quite probable that increased action of the chromaffin system in general leads to an overexcitability of the sympathetic nerves, while loss of function results in decreased excitability. Not only the adrenals, but the thyroid as well, may act as a direct excitant to the sympathetic nerves, for adrenalin mydriasis could be obtained constantly in normal and even thyroidectomized dogs by the feeding of thyroid extract. The thyroid seems, however, to have a double action and influences the vagus nerve as well as the sympathetic nerves.

Between the pancreas and the nervous system it is much more difficult to establish a relationship, though it seems very likely that the pancreas is not only influenced by, but influences, the vagus nerves. To show that the internal secretion of the pancreas is under the direct control of the vagus nerve, a number of experiments were performed. It was found that when the vagus was paralyzed by the administration of pilocarpin, excessive internal secretion of the pancreas, or "hyperpancreatism," resulted, and injections of adrenalin failed to produce glycosuria. On the other hand, injections of atropine seemed to stimulate the vagus, and so depress the function of the pancreas that the effect of thyroidectomy was outbalanced, and the injection of adrenalin in thyroidectomized dogs to which atropine was administered, gave rise to glycosuria.

The application of the results of these experiments to the phenomena observed in certain diseases of the ductless glands is obvious. Among other conclusions the authors draw attention to the close relationship between changes in function of the chromaffin system and diabetes